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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,689	02/03/2004	Derek A. Rice	H0005084-1170	3941

7590 08/11/2005

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EXAMINER

WHITE, DWAYNE J

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/771,689	RICE ET AL.	
	Examiner	Art Unit	
	Dwayne J. White	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-31 is/are allowed.
- 6) ☒ Claim(s) 1,6-15,17,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15 recites the limitation, "surfaces of the slot of the curved slot portion is fabricated with a thinner recast layer than other surfaces of the slot." It is unclear which surface Applicant is referring to. Clarification is required. The Examiner reserves judgment on this claim until clarification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Evrard (5,850,895). Evrard discloses a rotary body 40 with an axis of rotation about which the rotary body rotates, the rotary body comprising: a disk portion with an outer rim 44, a circular first face and a circular second face, and a slot with a linear slot portion 52 extending inwardly a distance from the outer rim and providing communication between the first face and the second face. The slot

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also has a first end and a second end and a curved slot portion adjoining the second end of the linear slot portion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-14, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Athey (4,536,932) in view of Nichols (5,071,313). Athey discloses a hoop stress relief mechanism for a solid rotary body with two faces and an outer rim comprising: a plurality slot 20 extending from the outer rim and providing communication between the first face and the second face, the slot having a first end and at the outer rim and a second end. Athey further discloses the rotary body being a turbine disk 19 having a plurality of blades 22 formed integrally with disk between the slots. Athey does not disclose the slot also having a curved slot portion or a specific number of blades between the slots.

Nichols teaches a stress relief mechanism comprising a slot 98 extending from the outer rim of a shroud member and in communication with the first and second faces of the member and terminating at a tip. Nichols further discloses the slot having a curved slot portion 104. Since both Athey and Nichols disclose stress relief slots in a turbine environment, it would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the slot of Athey, with the teachings of Nichols, by providing a curved slot portion to the plurality of

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slots, each curving in the same direction, for the purpose of reducing stress concentration in the disk. Nichols does not teach a specific distance between the tip of the slot and the linear slot portion or a range for the tip angle.

Since applicant has not disclosed that having the specific number of blades between the slots or the specific distance and angle of the tip solves any stated problem or is for any particular purpose above the fact that these features reduce stress and it appears that slot of Athey in view of Nichols would perform equally well with having the features as claimed by applicant, it would have been an obvious matter of design choice to modify the slot of Athey in view of Nichols by utilizing the specific dimensions as claimed for the purpose of reducing stress concentrations.

CONCLUSION

Allowable Subject Matter

Claims 20-31 are allowed.

Claims 2-5, 16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

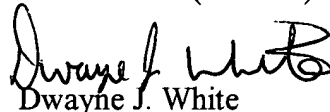
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne J. White whose telephone number is (571) 272-4825. The examiner can normally be reached on 7:00 am to 4 pm T-F and alternate Mondays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dwayne J. White
Patent Examiner
Art Unit 3745

DJW



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
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8/8/05